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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,819	08/09/2006	David K. Roberts	GB040036	6735
24737 7590 10/07/2008 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
SQUIRES, BRETT S				
ART UNIT		PAPER NUMBER		
2431				
MAIL DATE		DELIVERY MODE		
10/07/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/597,819

Applicant(s)

ROBERTS, DAVID K.

Examiner

BRETT SQUIRES

Art Unit

2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 12 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: the watermark detection unit shown in figure 6 is referenced by the specification using reference number 220 on page 12 lines 1 and 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: the various sections of the specification are not labeled with the appropriate section heading. Please see MPEP 608.01(a). Appropriate correction is required.

3. The disclosure is objected to because of the following informalities: the specification references "Figure 10" on page 11 line 27, a figure 10 has not been submitted to the Office and the element discussed in reference to figure 10

corresponding to the element in figure 6, accordingly the reference to figure 10 is understood to be a reference to figure 6. Appropriate correction is required.

35 USC § 112, sixth paragraph

4. Claims 12 and 15 satisfy the three-pronged analysis necessary to invoke 35 U.S.C. § 112, sixth paragraph and accordingly these claims are interpreted as means-plus-function claims. The three-pronged analysis necessary to invoke 35 U.S.C. § 112, sixth paragraph is recited below:

A claim limitation will be presumed to invoke 35 U.S.C. 112, sixth paragraph, if it meets the following 3-prong analysis:

- (A) the claim limitations must use the phrase "means for" or "step for;"
- (B) the "means for" or "step for" must be modified by functional language; and
- (C) the phrase "means for" or "step for" must not be modified by sufficient structure, material, or acts for achieving the specified function.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 12 and 15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 12 recites "an arrangement for processing an information signal in which a plurality of watermarks are present," having "means for detecting," "means for determining," and "means for calculating."

The means for clauses are interpreted in accordance with 35 U.S.C. 112 6th paragraph which recites: "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." The specification discloses on page 3 lines 15-23 that the means for detecting," "means for determining," and "means for calculating," can be implemented as purely software. Therefore, the arrangement for processing is drawn to functional descriptive material and does not fall into at least one of the four statutory classes defined by 35 U.S.C. 101. If a claim covers material not found in any of those four categories, then the claim falls outside the plainly expressed scope of 35 U.S.C. 101, even if the subject matter is otherwise new and useful. *See In re Nuijten 84 USPQ2d 1495 (Fed. Cir. 2007)*

Claims 14 and 15 recite additional means for clauses that satisfy the above stated three pronged requirement for interpretation under 35 U.S.C. 112 6th and are similarly rejected under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-8, 10, 12, 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyahara et al. (US 6,404,926).

Regarding Claim 1:

Miyahara discloses a method of processing an information signal in which a plurality of watermarks are present (See col. 5 lines 42-55), the plurality of watermarks together defining a payload ("Accompany Information Signal" See fig. 3, col. 3 lines 38-47, and col. 4 lines 32-47), the method performs detecting the presence of each of the plurality of watermarks in the information signal ("Watermark Detector" See figs. 2-3 ref. no. 22 and col. 9 lines 40-67), determining the payload represented by the watermarks (See col. 9 lines 61-67), and calculating a measure of confidence in the accuracy of the payload represented by the watermarks ("Evaluation Value" See fig. 4, col. 10 lines 5-67 and col. 11 lines 1-11).

Regarding Claim 2:

Miyahara discloses comparing the measure of confidence ("Evaluation Value" See fig. 4 ref. no. S9) with a threshold confidence value ("Threshold Value" See fig. 4 ref. no. S9) and providing an output based on the comparison with the threshold confidence value ("When a value of the absolute value of the differential is larger than the threshold th , it is assumed that the watermark is added and in the step 10 the accompany information signal is turned on." See fig. 4 and col. 11 lines 1-11).

Regarding Claim 3:

Miyahara discloses not determining the payload represented by the plurality of watermarks if the output indicated that the measure of confidence is below the threshold

confidence value ("When it is determined that the absolute value of differential is equal to or less than the threshold th , proceeding to the step S11, and the accompany information signal is turned of by assuming that the watermark is not added." See fig. 4 and col. 11 lines 1-15).

Regarding Claim 4:

Miyahara discloses deriving for each watermark a set of correlation results ("Sumi," Sumj," and "Sumn" See fig. 4 ref. no. S8 and col. 10 lines 5-39) by correlating the information signal with one of the watermarks ("Watermark Pattern" See fig. 5 ref. no. S22 and col. 10 lines 5-39) for each of a plurality of relative positions of the information signal with respect to the watermarks ("Watermark Pattern Shifter" See fig. 3 ref. nos. 71-1, 71-2 and col. 9 lines 40-60), and detecting a correlation peak in the set of correlation results for each watermark (See col. 10 lines 62-67 and col. 11 lines 1-8).

Regarding Claim 5:

Miyahara discloses the measure of confidence in the payload is based on the correlation results in the region of the correlation peaks ("Compare the evaluation value and the threshold value" See fig 4 ref. no. S9 and col. 11 lines 1-15).

Regarding Claim 6:

Miyahara inherently discloses the measure of confidence is related to the total energy of the correlation peaks ("DCT Device" See fig. 1 ref. no. 44 and "IDCT Device" See fig. 2 ref. no. 63 "The DCT Device and IDCT Device are used to compact energy at low frequencies and decompact the energy at low frequencies, accordingly it is inherent that the watermark detector uses energy coefficients to determine correlation peaks.").

Regarding Claim 7:

Miyahara discloses the measure of confidence is related to the shape of the correlation peak ("The height of evaluation values are input into the evaluation value comparator." See fig. 3 ref. no. 33 and col. 11 lines 1-15).

Regarding Claim 8:

Miyahara discloses identifying cluster of correlation results which are likely to represent correlation peaks ("Sumi," Sumj," and "Sumn" See fig. 4 ref. no. S8 and col. 10 lines 5-39) and processing the clusters to identify the cluster that is most likely to represent the true correlation peak (See col. 10 lines 62-67 and col. 11 lines 1-15).

Regarding Claim 10:

Miyahara discloses detecting the presence of watermarks including comparing at least part of the set of correlation results with information about an expected shape of a correlation peak in the results (See fig. 4 ref. no. S9 and col. 10 lines 62-67 and col. 11 lines 1-15).

Regarding Claim 12:

Miyahara discloses an arrangement for processing an information signal ("Image data" See col. 9 lines 34-39) in which a plurality of watermarks are present (See col. 5 lines 42-55), the plurality of watermarks together defining a payload (See col. 9 lines 61-67), the arrangement having means for detecting the presence of each of the plurality of watermarks in the information signal ("Evaluation Value Calculation Device" See fig. 3 ref. nos. 31-1, 31-2, 31-3 and col. 9 lines 40-67), means for determining the payload represented by the watermarks ("Evaluation Value Comparator" See fig. 3 ref. no. 33

and col. 9 lines 61-67), and means for calculating a measure of confidence in the accuracy of the payload represented by the watermarks ("Evaluation Value Comparator" See fig. 3 ref. no. 33 and col. 10 lines 62-67 and col. 11 lines 1-15).

Regarding Claim 14:

Miyahara inherently discloses the means for detecting, means for determining and means for calculating have a processor arranged to execute software performing those functions ("Evaluation Value Comparator" See fig. 3 ref. no. 33 and col. 10 lines 62-67 and col. 11 lines 1-15)

Regarding Claim 15:

Miyahara discloses an apparatus for presenting an information signal having means for disabling operation of the apparatus in dependence on the presence of a valid watermark in the information signal ("Image Converter" See fig. 3 ref. no. 34, col. 4 lines 32-47, and col. 10 lines 1-4).

Regarding Claim 16:

Miyahara discloses an arrangement for processing an information signal ("Image data" See col. 9 lines 34-39) in which a plurality of watermarks are present (See col. 5 lines 42-55), the plurality of watermarks together defining a payload (See col. 9 lines 61-67), the arrangement has a processor ("Evaluation Value Comparator" See fig. 3 ref. no. 33 and col. 10 lines 62-67 and col. 11 lines 1-15) for detecting the presence of each of the plurality of watermarks in the information signal ("Evaluation Value Calculation Device" See fig. 3 ref. nos. 31-1, 31-2, 31-3 and col. 9 lines 40-67), the processor determining the payload represented by the watermarks ("Evaluation Value

Comparator" See fig. 3 ref. no. 33 and col. 9 lines 61-67) and calculating a measure of confidence in the accuracy of the payload represented by the watermarks ("Evaluation Value Comparator" See fig. 3 ref. no. 33 and col. 10 lines 62-67 and col. 11 lines 1-15).

Allowable Subject Matter

8. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRETT SQUIRES whose telephone number is (571) 272-8021. The examiner can normally be reached on 9:00am - 5:30pm Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BS/

/Christopher A. Revak/

Primary Examiner, Art Unit 2131